

Public Works Department Transportation Department

Boston

2010

Boston Utility Construction
Kickoff Meeting - Including a
presentations from the
AAB and Massachusetts
Commission for the Blind

Mayor Thomas M. Menino, City of Boston

Joanne Massaro, Commissioner of Public Works

Michael Kineavy, Chief of Policy, Mayor's Office
Thomas Tinlin, Commissioner of Transportation
Steven Spinetto, Commissioner for the Office of Persons with Disabilities
Jay Walsh, Director of Neighborhood Services
Robert Giers, Principal Civil Engineer BPWD
Meg Robertson, Director of Commission for the Blind
Thomas Hopkins, Chairman of Mass. Architectural Access Board
Mark Dempsey, Compliance Officer for Mass. Architectural Access Board
John DeBenedictis, Director of Engineering BTD
Ed Hesford, Supervising Traffic Engineer BTD
Mark Cardarelli, Chief Highway Construction Inspector BPWD

Friday, March 26th, 2010 Boston City Hall, Room 801

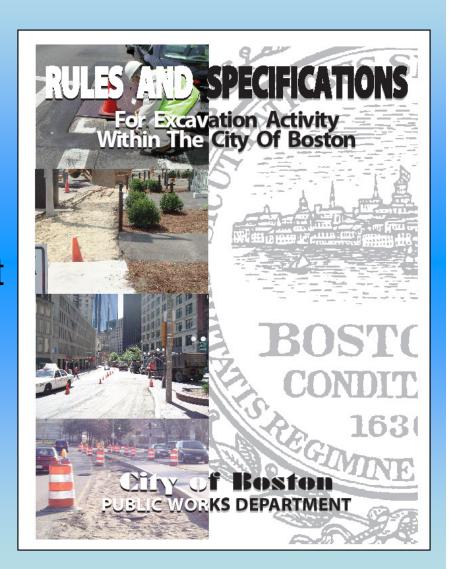




CIU construction inspection unit

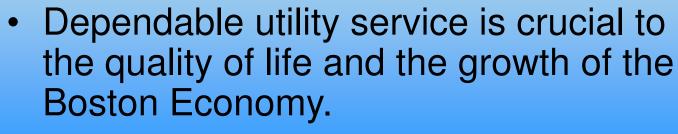
City Rules & Specifications

- Rules and Specifications:
 Updated February 10, 2009
 - Available onlineCityofBoston.gov,Public Works Department
- Created with input from utilities & various agencies
- Updated regularly



Welcome Boston Utilities & Contractors





- Repairs & upgrades are a fact of life.
- Roadway layout & Subsurface conditions complicate work.



NSTAR





Utility Construction is a Demanding & Difficult Job!



Why We Have This Meeting

- The City acknowledges the busy schedules associated with construction.
- You chose this profession.
- Your work impacts both the residents of Boston and the City's infrastructure.
- With this profession comes responsibilities and expectations.
- There is a need to meet before the start of every construction season. Reinforcement is a "Good Thing"
- Attending this meeting ensures that you will fully understand the City's Rules and Specifications, as well as the expectations the City has for everyone during construction.
- After leaving today's meeting it is unacceptable to later state that you did not understand or "were not aware" of the City's Rules and Specifications.

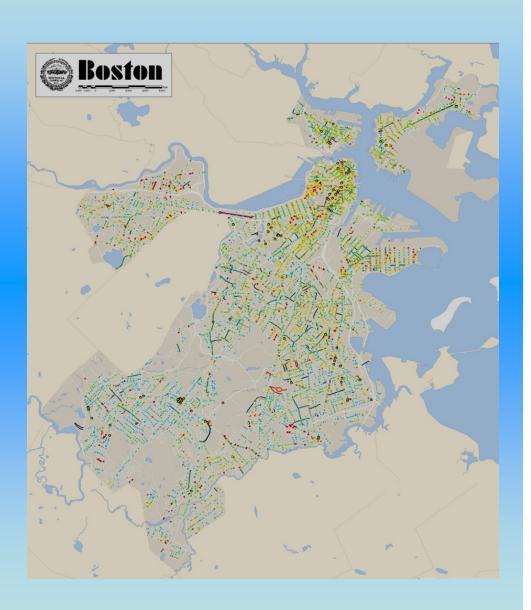
Boston Utility Worksites

During the 2009
Construction Season
there were an average
of 143 active worksites
and 260 plates daily.

- Excavating
- Sidewalks
- Pipe/Conduit Installation
- Backfilling
- Plating
- Paving

Between 2006 and 2009, approximately 6000 permits were issued annually.

(Permit activation average not including extensions)



Reasons for Street Opening Cuts

- 1. Age of Utility Infrastructure
- 2. Geography
- 3. Changing Population (New Services and Upgrades)
- 4. Technological Advancement

Age of Infrastructure

- Boston is home to some of the oldest infrastructure in America.
- Some Infrastructure was placed as long ago as the 1880's
- Some of the materials used to build the infrastructure is no longer considered "acceptable" by today's standards.
 - Lead Services, Cast Iron Mains, Split Fiber Mains, etc.

Geographic Location

- Cold weather can cause frost heaves and other adverse conditions which directly affect the quality of infrastructure buried under Boston's streets and sidewalks.
- Freezing temperatures cause havoc on Utility Infrastructure.
- Boston was part of a large expanse of swampland and estuaries that were later filled in with various materials in order to provide more area for development.
- Sub-surface soils vary as a result of landfill materials used since the 1770's – organics, clays, etc.

Population Density / New Service

- Boston is densely populated with new businesses moving into the City each year.
 - Commercial buildings have higher energy demands, which require upgrades in service.
 - New building owners often require installation of utility service connections.
 - Utility upgrades for existing homes and businesses are frequent, and lend evidence that the City of Boston is a thriving, vibrant, growing community.

Technological Advancement Upgrades

- As technological innovation improves, the utility infrastructure needs to match the progression.
 - Fiber-optics replace traditional wire systems.
 - Cell service installations to accommodate the increasing demand for phone signal strength.
- These advancements require a tremendous amount infrastructure replacement, resulting in numerous excavations throughout the City.

What Does it all Mean?

 These four independent factors lead to constant and continuous street excavation work throughout the City of Boston.

 The bottom line is that the City of Boston is one of the busiest cities in the United States when it comes to utility service and repair work.

Coordination is a Must!!

- The constant construction can be extremely frustrating to City officials who are responsible for planning, resurfacing, and reconstruction projects in the City.
 - The ability to maintain capital street improvement programs is severely compromised by the frequency of utility construction.
 - The City's pavement structure is weakened with every utility excavation.

Since 2007 there have been over 23,000 permits activated.

City of Boston and Utility Capital Improvement

- City: Capital Programs
- Utility Companies: Upgrades and Service
- Private Contractors: Residential/Business
 - Utility and Construction work occurs all throughout Boston
 - The City wants to pave the streets that are in need of repair.
 - PWD needs to be sure that the streets paved aren't cut into for at least 5 years.

Coordination: Continued

- One of Mayor Menino's goals for his new term is to eliminate utility cuts into Guaranteed Streets altogether.
- When a recently paved street becomes littered with utility cuts, it gives the appearance of apathy to the general public regarding coordination. This is obviously unacceptable to the Public Works Department.
- Digging into new streets will not be tolerated!!!

Truly Cleared?

- The goal of the Public Works Department is to improve coordination to the point where each newly paved streets lives to the full extent of its intended lifespan without becoming plagued by utility construction cuts which jeopardize the infrastructure of the City roadways.
 - Resurfaced streets should remain undisturbed for at least 5 years
 - Reconstructed streets should remain undisturbed for at least 10 years
- City recommends identification of trouble mains/conduits for full replacement before any City resurfacing project takes place.

A Need to Improve Coordination Technique

- Prior to July 2009, all clearance requests for the City were sent to each utility company via email.
 - Proposed candidates for resurfacing or reconstruction were submitted on spreadsheets to each utility who then cross-referenced the City's proposed limits with their own work programs.
 - Clearance was a tedious and difficult task.
 - Each correspondence depended upon the utility presenting an accurate assessment of the City's proposed limits, as well as upon the City correctly interpreting the utility's response
 - The clearance system led to the opportunity for human error.

City of Boston Utility Coordination Software (COBUCS)

- In order to more easily facilitate the coordination process, the Public Works Department proposed the creation of an online program that would allow the PWD, Utility companies and Private contractors to "Reserve" their planned work.
 - Developed by Paul Taylor and Managed by Mark Cardarelli of the Public Works Department, COBUCS is capable of instantly checking utility programs with the Guaranteed Street List and proposed City projects.
 - The COBUCS program automatically updates, is free to use, and is available on any computer with internet capability.
 - (Firefox Web Browser is the preferred system for using COBUCS)

COBUCS: Uses

- Utilities must enter all of their proposed work into COBUCS
 - It is the City's expectation that all utilities, at a minimum, enter their two-year capital plans for work.
 - COBUCS checks all entered work against Guaranteed Street List to determine if the entered data lies on, or intersects, a Guaranteed Street.
 - COBUCS checks all entered work against all City programs in order to determine if the entered data lies on, or intersects, a street proposed for a City of Boston resurfacing or reconstruction program.

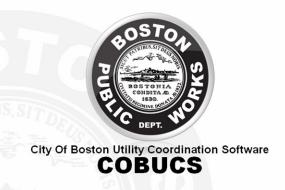
COBUCS Address: [http://140.241.251.251:81/cobucs/login.html]

Closing the Loophole of the Clearance Process

- Prior to the COBUCS program, private contractors and building developers were not previously incorporated in the utility clearance process.
 - Because these entities were not included, there were many street cuts being made after resurfacing was completed.
 - To close this loophole, all private contractors and developers are now mandated to use the COBUCS program.
 - No permits will be issued to any entity unless their proposed work has been entered into the COBUCS program.

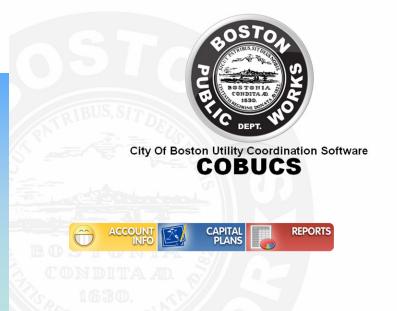
Navigation of COBUCS

Utility Companies / City Agencies





Private Contractors / Developers



Using COBUCS / Capital Plans

Absolutely NO PERMITS shall be issued by the Boston Public Works Permit Branch until that Permittee's proposed work has been entered into the COBUCS program.

The proposed **start date** (also called the "Reserve Date") must always be on the day you become **aware of the project!**

The PWD recommends that you extend your proposed **completion date** to the end of the Construction Season, regardless of your actual planned completion date.

This allows the City to coordinate with you more efficiently.

Using COBUCS / Capital Plans Continued

- On COBUCS entries where the "Reserve Date" has expired but the Project has not yet been completed, your company must be <u>delete</u> and <u>re-enter</u> the location with a new proposed completion date.
- COBUCS Users must update entries regularly!
- Failure to update COBUCS may result in denial of new PWD permit applications.
- You must not remove completed entries from COBUCS.
- The Public Works Department is working on a system of archiving Completed work from your entry table.

City of Boston CAPITAL PLAN

	Street	From	Lo	То	Hi	Туре	Begin	End	Progress	PVVD	Complete	Reference 2	
3	ACADEMY RD	COLUMBUS AV SE			24	Asphalt Resurfacir	05/01/2009	12/31/2009	Completed	1770	07/13/2009		
3	ADAMS ST DO S	GALLIVAN BLVD				Asphalt Resurfacir	05/01/2009				07/25/2009	ARP	
)	ANSEL RD	BLUE HILL AV NB				Asphalt Resurfacir	05/01/2009	12/31/2009			08/20/2009	ARP	
	ASHTON ST	BALSAM ST		FRONTENAC ST		Asphalt Resurfacir	05/01/2009		Completed		08/20/2009	ARP	
	AVONDALE ST	RICHMOND ST DO				Asphalt Resurfacir	05/01/2009	12/31/2009	Completed		09/30/2009	ARP	
	BAGNAL ST	ALDIE ST		HOLTON ST		Asphalt Resurfacir	05/01/2009	12/31/2009	Completed		07/30/2009	ARP	
	BARBARA ST							12/31/2009	Completed			ARP	
				SOUTH HUNTINGT			05/01/2009				08/05/2009	ARP	
	BAYSWATER ST	ST ANDREW RD	29	ST EDWARD RD	74 END	Asphalt Resurfacir	05/01/2009	12/31/2009	Completed		08/05/2009	ARP	
	BEECHCROFT ST	WASHINGTON ST				Asphalt Resurfacir	04/01/2009				07/30/2009	ARP	
	BELFORT ST	DORCHESTER AV			30	Asphalt Resurfacir	05/01/2009	12/31/2009			09/02/2009		
	BLAKE ST	BIRCHCROFT RD	40	GREENFIELD RD		Asphalt Resurfacir	05/01/2009	12/31/2009	Completed		07/29/2009	ARP	
	BRAYTON RD	KENRICK ST		MARGO RD	53	Asphalt Resurfacir	05/01/2009	12/31/2009	Completed	_	07/15/2009	ARP	
	BROOKS ST BR	NORTH BEACON S			48	Asphalt Resurfacir	05/01/2009	05/31/2009	Completed		07/30/2009	ARP	
	BUTLER ST S	DEAD END		VENTURA ST		Asphalt Resurfacir	05/01/2009	12/31/2009				ARP)
	CHARLES ST DO	FREEMAN ST	28	DITSON ST	38	Asphalt Resurfacir	05/01/2009		Completed		09/02/2009		
	CHISWICK RD	CHESTNUT HILL A'				Asphalt Resurfacir	05/01/2009	12/31/2009			07/23/2009		
	CHISWICK TR	PORTINA RD		CHISWICK RD		Asphalt Resurfacir	05/01/2009	12/31/2009	Completed		07/23/2009	ARP	
	COLBERG AV	BEECH ST	110	W ROXBURY SURI	END	Asphalt Resurfacir	05/01/2009	12/31/2009	Completed		07/14/2009	ARP	
	COLUMBUS AV N	STUART ST	100	CLARENDON ST	250	Asphalt Resurfacir	10/02/2009	12/31/2009	Completed		10/13/2009	ARP	
	COTTAGE ST EB	GOVE ST E	149	PORTER ST EB W	END	Asphalt Resurfacir	06/09/2009	12/31/2009	Completed		08/05/2009	ARP	
	CRANE ST	BRADLEE ST HP	STA	DEAD END	END	Asphalt Resurfacir	05/01/2009	12/31/2009	Completed		07/29/2009	ARP	
	DARLINGTON ST	NORFOLK ST DO	STA	SOUTHERN AV	END	Asphalt Resurfacir	05/01/2009	12/31/2009	Completed		08/20/2009	ARP	
	DIMOCK ST	WASHINGTON ST	STA	COLUMBUS AV SE	49	Asphalt Resurfacir	05/01/2009	12/31/2009	Completed		07/13/2009	ARP	
	DONCASTER ST	METROPOLITAN A	STA	DALE ST HP	END	Asphalt Resurfacir	05/01/2009	12/31/2009	Completed		07/28/2009	ARP	
	EAST LENOX ST	HARRISON AV	55	FELLOWS ST	END	Asphalt Resurfacir	06/15/2009	12/31/2009	Completed		08/21/2009	ARP	
	EDGEWATER DR	RIVER ST HP	STA	TOPALIAN ST	51	Asphalt Resurfacir	05/01/2009	12/31/2009	Completed		08/03/2009	ARP	
	FAIRBANKS ST	WASHINGTON ST	STA	FANEUIL ST	END	Asphalt Resurfacir	05/01/2009	11/15/2009	Completed		07/15/2009	ARP	
	FELLOWS ST	NORTHAMPTON S	STA	CONNOLLY ST	END	Asphalt Resurfacir	05/01/2009	12/31/2009	Completed		08/21/2009	ARP	
	FLORIDA ST	KING ST DO	STA	LONSDALE ST	39	Asphalt Resurfacir	05/01/2009	12/31/2009	Completed		09/21/2009	ARP	
	FOTTLER RD	HAZLETON ST	STA	WALK HILL ST	11	Asphalt Resurfacir	05/01/2009	12/31/2009	Completed		08/14/2009	ARP	
	FRANKLIN TER	WARREN AV HP	STA	DEAD END	END	Asphalt Resurfacir	05/01/2009	12/31/2009	Completed		08/03/2009	ARP	

COBUCS Conflicts

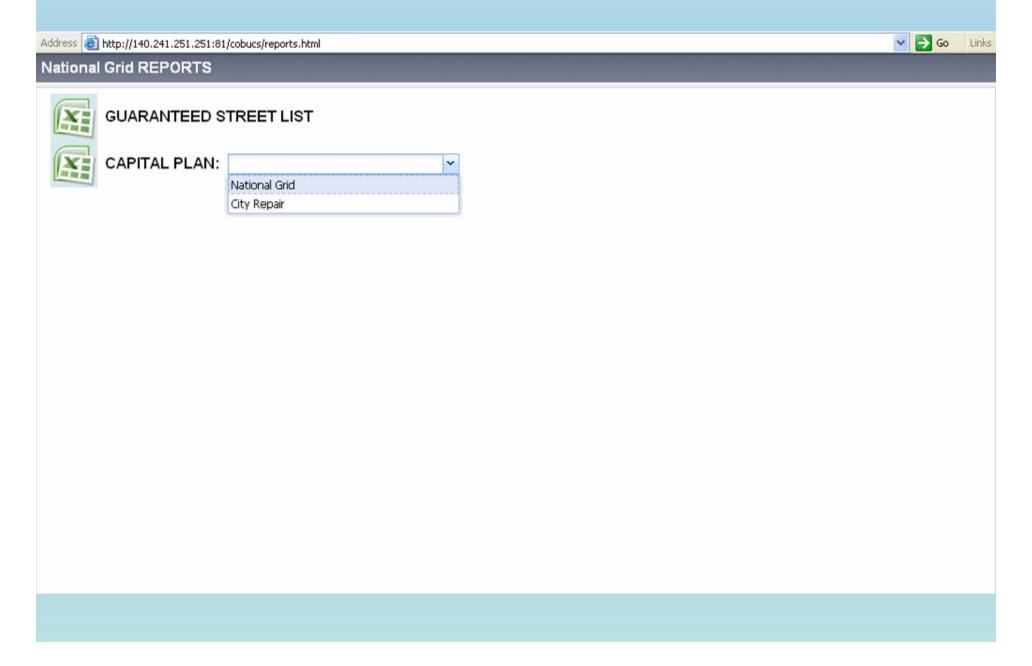
- On Guaranteed Street Conflicts, your company must contact the PWD Permit Branch at 617-635-4909
- On Proposed Resurfacing/Reconstruction Street Conflicts, your company must immediately contact and coordinate with Mark Cardarelli by emailing him at

mark.cardarelli@cityofboston.gov or calling him at 617-635-4951.

COBUCS Reports

- COBUCS offers three reports to be reviewed to better aid your company.
 - The Guaranteed Street List
 - City of Boston's Capital Plans
 - Your Company's Capital Plans
 - To view a report, select the Reports icon on the COBUCS starting menu

COBUCS Reports: Capital Plan



Clearance Sign-Off

- The City of Boston will be experiencing a tremendous increase in the number of streets being resurfaced in the 2010 Construction Season.
 - ARRA
 - PWD Programs (Resurfacing/Reconstruction)
 - MassDoT Programs (Reconstruction)
- All streets that will be resurfaced or reconstructed in 2010 will have been officially cleared and signed off on by the 22 major utility companies and City agencies.
- Every private contractor outside of the major 22 who performs roadway excavation work in the City of Boston has had access to all proposed streets, and the opportunity to contact the City for possible deferment.

The Bottom Line...

- The City's expectations are that all streets to be resurfaced or reconstructed in the City of Boston in 2010 are free of any future utility planned or repair work for a minimum of 5 years.
- Your company was given every opportunity to defer City program streets throughout the clearance process.
- The penalty of digging into a new street will be severe. It will range from, at a minimum, a curb to curb overlay fee, to the possibility of denial of a work permit for that street.

Utility Construction







Inventory

 Before the start of the Construction season you must check all your equipment to be sure they are in working order. None of us want to have your work stopped suddenly due to equipment breakdown.

Signage

- All Permittees must have ALL appropriate signage for utility construction work. Lack of proper signage will result in immediate shutdown.
- All signage must have lettering that is clearly visible. Damaged signs should be replaced. At no time should a sign be ineligible to the public.
- Delineation of work site
 - Cones, tape, barrels, etc.

PWD's Responsibility

During Utility Construction, the PWD strives to do two things:

1- Minimize the inconvenience to the Public.

2- Protect and Preserve the City's Infrastructure

Permitee's Responsibility

The Safety and Quality of Boston's right-ofways cannot be sacrificed!

Follow BTD approved Traffic Management Plans & work hours.

Adhere to Public Works Rules & Specifications at all points during construction.

Committed to Superior Construction

CIU construction inspection unit

A specialized unit created by Mayor Menino in 2003 to increase oversight personnel to combat poor workmanship.

Mayor Menino Demands Perfection!

BWSC CSO initiative

- Electrical infrastructure upgrade
- Telecommunication
- Growth in Boston real estate markets
- Angle of Influence work
- OLD INFRASTRUCTURE
- CIU Assists regular BPWD workforce
- Marked improvement since creation in Fall 2003

> Education & Inspection

Documentation

>>> Evaluation

> Enforcement

Changing expectation of construction in Boston

Standardized Inspection

- Standardized 15 item report
- Items based on City Rules & Specifications
- "Snapshot" of your job
- Database stores & evaluates all inspection data

Contractor: Foreman: Phone: Travel Time Included Time From: To: Total Hours: Total Hours: Travel Time Included Time From: To: Total Hours: Total	UTI	LITY	STR	LEET	Y DIVISION OPENING REPAI	R	
#: Permittee: Patch / Trench or Patch / Trench Depth? #: Permittee: Patch / Trench or Patch / Trench Depth? Contractor: Foreman: Phone: Travel Time Included	DOMINIA SA	11	ISPE	CTC		ze of Cut on Permit	
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Olled Density FIII (CDF)? ORP IN Secured? N/A YES NO IN YES NO	6. Compacted in 8" Maximum Lifts?	n/a	YES	NO			
n/s VES NO	7. Controlled Density Fill (CDF)?	n/a	YES	NO			\equiv
Straight and Vertical? n/a YES NO	Proper use of CDF? 8. Opening Secured?	n/a	YES	NO			
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TIES : Stass of actual cost?	Utility Rep. Contacted? YES	NO					
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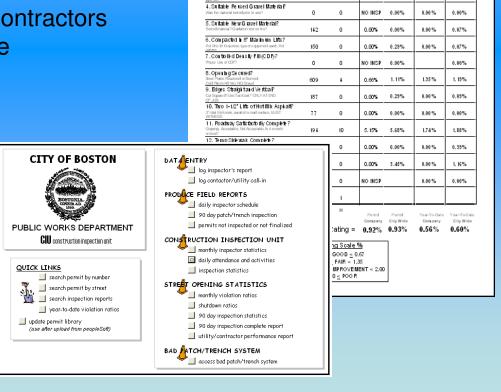
Boston's Street Opening Management System

Build an Inspection Database to Store and Evaluate Inspection Data

- ✓ Tracking Permittee & Violations
- ✓ Develop Report Card for Contractors
- ✓ Report Card Helps Educate and Enforce Rule & Specs
- ✓ Benefiting Utilities

Ensure a "Top-Down" Support Structure

- Starts with Mayor Menino and Commissioner
 Massaro of the Public Works Department
- ✓ City Annual Report



1.Cure at Permit Pie seat?

2.Ab tilig to Permit Restrictions

CO construction inspection unit

Company

0.79%

0.04%

0.84%

0.16%

Company City Wide

0.00% 0.00%

0.62%

1.34%

Noncompliance Rating Summary

KeySpan

482

47.6

"It's Construction"...?

The City acknowledges that construction is difficult and complicated.

Construction is a chain-of-command. Breakdowns in communication can happen.

However, the CIU will not accept blatant disregard, cutting corners, indifference, or apathy as an excuse for not following the Rules and Specification and state: "It's Construction".

Item 1 – Permitting & Job Start

- Current Permit on jobsite at all times (planned work)
- Jackies Law Permit on Job Site at all times.
- Call placed to City Hall at least 24hrs prior to: (emergencies within 1 hour)
 - Start
 - Backfill
 - Pave
 - Completion
- Signage
 - ID signs
 - Job site must be identifiable



Emergency Permits

- Purchased in blocks from PWD permit office
- To be used in Emergency situations only
- Emergency situations must be called in within (1) one hour of commencement of work.
- Must apply for PWD permit after 24hrs of work
- Delaying of PWD permit request unacceptable
- Delay of job requires reason in writing

Item 2 – BTD Requirements

- BTD Approval Form must be on job site at all time.
- BTD approved traffic management plan on jobsite at all times (MUTCD signs)
- Traffic flow
- Police Detail
- Work Hours
- Stockpiling only where approved

		HIOH	IWA	PUBLIC WORKS DI Y DIVISION							
BOSTONIA.				' OPENING REPAII ORS REPORT	R						
O'ADITA AD J	Size of Cut on Permit										
					v or Sidewalk?						
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4. Suitable Reused Gravel Material? Was the material tested prior to use?	n/a	YES	NO			ᆜ					
5. Suitable New Gravel Material? Tested material? Gradation test on file?	n/a	YES	NO								
6. Compacted in 8" Maximum Lifts?	n/a	YES	NO								
7. Controlled Density Fill (CDF)?	n/a	YES	NO								
Proper use of CDF? 8. Opening Secured?	n/a	YES	NO								
Steel Plates Recessed or Bermed; Cold patch (48hrs); NO gravel 9. Edges Straight and Vertical?	n/a	YES	NO			Ħ ー					
Cut Squared? Use Tao Coat? ONLY AT END OF JOB. 10. Two 1-1/2" Lifts of Hot Mix Asphalt?		YES				Ξ					
3" total thickness, parallel to road surface, MUSTWITNESS						L SEDAY					
11. Roadway Satisfactorily Complete? Ongoing, Acceptable, Hot Acceptable, Is it smooth and level?	n/a	YES	NO			INSPECTION					
12. Temp Sidewalk Complete? Orgoing Acceptable, Not Acceptable, Two 1 1/2' lifts of HMA?	n/a	YES	NO								
13. Permanent Sidewalk Complete? Ongoing, Acceptable, Hot Acceptable, Brushed, Tooled, and Level?	n/a	YES	NO								
14. Loop Detectors / Crosswalks?	n/a	YES	NO								
What is the condition? Damaged? Intersection? 15. Public Safety Issue?		YES	NO			i i					
Violation Delivered? YES	NO			Photo? YES	NO	SHUTDOWN					
Utility Rep. Contacted? YES	NO			rens:		_					
Comments: Size of actual cut?				reame ,		_					
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Item 3 — Condition of Work Zone

- OSHA requirements maintained at all times.
- Jackie's Law applicable on unattended trench excavations.
- Safe & Guarded Work Zone
- Cones, signs, plastic drums etc...
- Shoring (where required)

Safe, clean & well defined

Jobsite!



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	Day of the week, Month, #, Year				Note	s		Violation	
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	2. Abiding to Permit Restrictions?	n/a	YES	NO				🗖	
(Wow by traffic? Police Datall? Work Hours? Stockpling? 3. Safe Work Zone? Shoring? Guarded work zone? Ex. Cones? Bare by Leas? Etc	n/a	YES	NO				🗖	
	4. Surtable He used Gravel Material? Was the material tested prior to use?	n/a	YES	NO				🗖	
	5. Suitable New Gravel Material? Tested material? Gradation test on tile?	n/a	YES	NO					
	6. Compacted in 8" Maximum Lifts? of the lift thickness; type of equipment used; of passes? 7. Controlled Density Fill (CDF)?		YES						
	Proper use of CDF? 8. Opening Secured?	n/a	YES	NO				····· =	
	Steel Plates Recessed or Bermed; Cold patch (48hm); NO gravel 9. Edges Straight and Vertical?	n/a	YES	NO					
	Cut Squared? Use Tao-Coat? ONLY AT END OF JOB. 10. Two 1-1/2" Lifts of Hot Mix Asphalt?	n/a	YES	NO					
	3" total thickness, parallel to road surface, MUSTWITNESS 11. Roadway Satisfactorily Complete?	n/a	YES	NO					90 DAY
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7	The same of the sa	-	o notas	on this re	porfare itue io sta	dements noted			

Item 3 – <u>Condition of Work</u> <u>Zone Con't</u>

- Boston is a densely populated City requiring proper protection to all those that encounter an excavation.
- The Permittee must surround the excavation with cones, barrels etc.
- The cones and barrels must be taped or roped to protect the pedestrians, workers and vehicles passing through the work zone.
- There will be no exceptions and violations for noncompliance will be issued and the job will be shut down.

Properly Protected Work Zone



Item 3 – Foreman Check List

- Before excavation begins the Foreman must have performed the following:
 - Checked to be sure the current permit is valid and on site.
 - Made sure that all required signage has been placed properly.
 - Verified that all BTD traffic regulations are being upheld, allowing traffic flow (cones, barrels, tape, etc).
 - Excavation area has been secured and cordoned off.

Only after each of the above requirements has been established can the work take place.

Items 4 & 5 - Backfill Material

- (MHD M1.03.1), "Process Gravel for Sub-base" Required
- Re-used and Recycled excavated material requires laboratory test results signed by a professional engineer that the backfill material conforms to MHD M1.03.1
- Annual submission of current testing (sieve analysis & proctor)
- Random onsite & source verification testing

	of BOSTON - PUBLIC WORKS DEPT HIGHWAY DIVISION ILITY STREET OPENING REPAIR INSPECTORS REPORT Size of Cut on Permit										
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Date:	We	ather	/Ten	np:							
Lary of the week, Month, #, Year				Notes	Viola	ation					
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Two way traffic? Police Detail? Work Hours? Stockpling?	nva	TES	NO			=					
3. Safe Work Zone? Shoring? Guarded work zone? Ex. Cones? Barre is? Tage? Elso	n/a	YES	NO								
4. Suitable Reused Gravel Material? Was the material tested prior to use?	n/a	YES	NO								
5. Suitable New Gravel Material? Tested material? Gradation test on file?	n/a	YES	NO								
6. Compacted in 8" Maximum Lifts?	n/a	YES	NO								
* of this, lift thickness; type of equipment used; * of passes? 7. Controlled Density Fill (CDF)? Proper use of CDF?	n/a	YES	NO								
8. Opening Secured?	n/a	YES	NO								
Steel Plates Recessed or Bermed; Cold patch (48hm); NO gravel 9. Edges Straight and Vertical?	n/a	YES	NO			_					
Cut Squared? Use Tao-Coat? ONLY AT END OF JOB.						브					
10. Two 1-1/2" Lifts of Hot Mix Asphalt? 3' total thickness, parallel to road surface, MUSTWITNESS	n/a	YES	NO								
11. Roadway Satisfactorily Complete? Ongoing Acceptable, Not Acceptable, is it smooth and level?	n/a	YES	NO			90 DAY INSPECTION					
12. Temp Sidewalk Complete?	n/a	YES	NO								
Ongoing, Acceptable, Hot Acceptable, Two 11/2" IIIts of HMA? 13. Permanent Sidewalk Complete?	n/e	YES	NO			\exists					
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14. Loop Detectors / Crosswalks? What is the condition? Damaged? Intersection?	n/a	YES	NO			\sqcup					
15. Public Safety Issue?		YES	NO								
Violation Delivered? YES	NO			Photo? YES	NO	SHUTDOWN					
Utility Rep. Contacted? YES	NO			rame:							
Comments: Stee of actual cut?				rem:							
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Acceptable.

Item 6 – <u>Compaction</u> Critical step in street opening restoration

- Standard 8" lifts sufficient for standard equipment (jumping-jack).
- Control-strip required for equipment capable of greater compaction depth.
- Crowded trench can prohibit standard compaction.
- Poor compaction results in unacceptable patches/trenches.
- Any Permittee's work zone found to be in egregious violation of Item 6 shall be shut down.

Trust will have been broken!

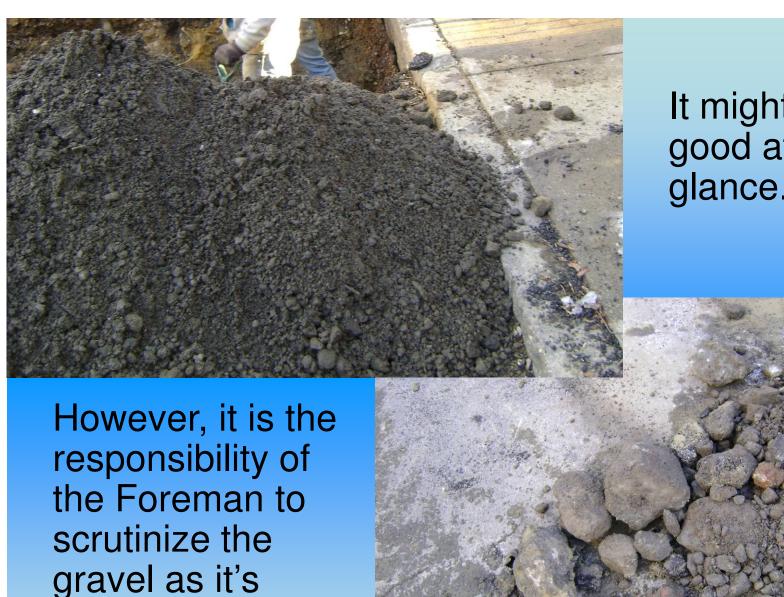
 Possibility of all active work zones being shut down (Excluding Emergency work)





Item 6 – Foreman Check List

- Before backfilling takes place the Foreman must have performed the following:
 - Is the gravel being supplied from an approved source?
 - Reject any material that is frozen, wet, or otherwise visually appearing out of specifications.
 - Even if the gravel is coming from an approved source, if a foreman has what the CIU determines to be unacceptable backfill material, the Foreman is liable.
 - On standard backfill compaction equipment (Jumping-Jacks, plate compactors, etc) the Foreman must perform no more than 8" lifts with at least 5-7 passes each lift.



placed to ensure

that it meets

spec.

It might look good at first glance...

Item 7 - Controlled Density Fill

 Flow-Fill to be used only with permission from PWD

 24" gravel buffer to be provided below pavement structure for drainage

Min. 24 hr setup

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				Dt	av or Sidewalk?	
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Two way traffic? Police Detail? Work Hours? Stockpling?						=
3. Safe Work Zone? Shoring? Guarded work zone? Ex. Cones? Barse is? Tape? Etc	n/a	YES	NO			\Box
4. Suitable Reused Gravel Material?	n/a	YES	NO			
5. Suitable New Gravel Material? Tested material? Gradation test on file?	n/a	YES	NO			
6. Compacted in 8" Maximum Lifts?	n/a	YES	NO			
# of Iffs; lift thickness; type of equipment used; # of passes? 7. Controlled Density Fill (CDF)?	n/a	YES	NO			_
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8. Opening Secured? Shell Plates Recessed or Bermed; Cold patch (48hrs); NO gravel	n/a	YES	NO			ш
9. Edges Straight and Vertical?	n/a	YES	NO			
Cut Squared? Use Tao-Coat? ONLY AT END OF JOB. 10. Two 1-1/2" Lifts of Hot Mix Asphalt?	n/a	YES	NO			
3" total thickness, parallel to road surface, MUSTWITNESS						
11. Roadway Satisfactorily Complete? Ongoing Acceptable, Hot Acceptable, is it smooth and level?	n/a	YES	NO			NSPECTION
12. Temp Sidewalk Complete?	n/a	YES	NO			
Ongoing, Acceptable, Hot Acceptable, Two 1 1/2" lifts of HMA? 13. Permanent Sidewalk Complete?	-/-	YES	NO			\equiv
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14. Loop Detectors / Crosswalks? What is the condition? Damaged? Intersection?	n/a	YES	NO			
15. Public Safety Issue?		YES	NO			
Definitive hezard? Describe. Violation Delivered? YES	NO			Photo? YES	NO	SHUTDOWN
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Item 8 – Opening Secured

 City expects all active work sites to be backfilled and paving every day.

Steel Plates

- To be used when conditions dictate
- Manpower and production reasons not valid
- City must be made aware of plated locations
- Permittees are responsible for daily monitoring of plated locations.

Plate installation

- Recessed (Leveling Course)
- "Bermed" (24" ramp in path of travel)
- Minimum 18" over excavation
- Monitor sidewalls, especially in wet weather
- Plate must have visible ID and Phone # for emergency contact on both sides.

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				Road	lway or Sidewalk					
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Address:	Co	ntrac	tor:							
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Day of the week, Month, s, Year				Notes	v	iolation				
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is permit current? Call in logged? Proper Signage? 2. Abiding to Permit Restrictions?	-/-	YES	МО			=				
Two way traffic? Police Detail? Work Hours? Stockpling?	nva					··· '				
3. Safe Work Zone? Shoring? Guardedwork zone? Ex. Cones? Barse is? Tape? Etc	n/a	YES	NO							
4. Suitable Reused Gravel Material?	n/a	YES	NO			🗖				
5. Suitable New Gravel Material?	n/a	YES	NO							
6. Compacted in 8" Maximum Lifts?	n/a	YES	NO							
e of life; lift thickness; type of equipment used; e of passes? 7. Controlled Density Fill (CDF)?	n/a	YES	NO			··· 💳				
Proper use of CDF? 8. Opening Secured?	-/-	YES				片				
Sheel Plates Recessed or Bermed; Cold patch (46hrs), NO gravel						··· ' ⊟				
9. Edges Straight and Vertical? Cut Squared? Use Tac-Coat? ONLY AT END OF JOB.	n/a	YES	NO			ப				
10. Two 1-1/2" Lifts of Hot Mix Asphalt?	n/a	YES	NO							
11. Roadway Satisfactorily Complete?	n/a	YES	NO			90 DAY NGPECTION				
Orgoing, Acceptable, Hot Acceptable, Is it smooth and level? 12. Temp Sidewalk Complete?	n/a	YES	NO							
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13. Permanent Sidewalk Complete? Orgolog, Acceptable, Hot Acceptable, Brushed, Tooled, and Level?	n/a	YES	NO			∐				
14. Loop Detectors / Crosswalks? What is the condition? Damaged? Intersection?	n/a	YES	NO			🗆				
15. Public Safety Issue?		YES	NO			🗆				
Violation Delivered? YES	NO			Photo? YES	NO	SHUTDOWN				
Utility Rep. Contacted? YES	NO			rens	···Phone Wunder·····					
Comments: Stee of actual cut?										
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Item 8 – Opening Secured Cont'd

<u>Coldpatch</u> - Any excavation left to grade in coldpatch asphalt must be monitored and replace within 48 hrs.

Absolutely No openings will be left in gravel!

The City will not tolerate excavations that have not been secured as specified in the Rules and Specifications.

The City will not accept excuses, lack of effort, or a lack of professionalism when it comes to securing job sites in the City of Boston.

Securing the Public's Safety comes before the convenience of doing work.

Not Acceptable!





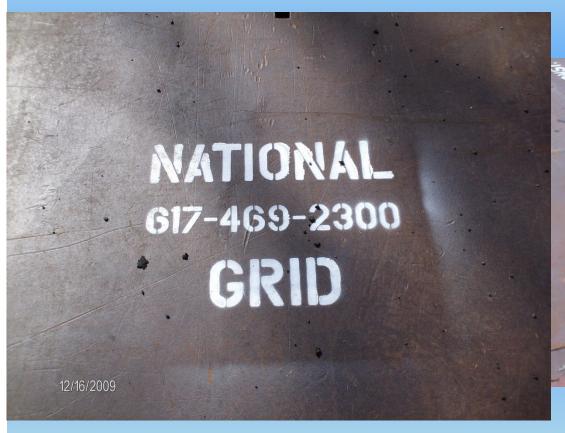




Acceptable.



Acceptable.



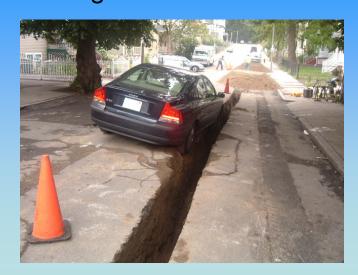


Item 8 – Inactive locations Cont... Jackie's Law

Jackie's law

- Applies to unattended open trenches.
- •Any public safety violation on unattended trenches will be sited under "Jackie's Law" as well as BPWD Rules and Specifications.
- Any public safety violation on attended trenches will be a violation of OSHA as well as BPWD Rules and Specifications.

Any site where the excavation is in excess of 3 feet below grade and the depth of which is, in general, greater than the width, but the width of the trench, as measured at the bottom, is no greater than 15 feet will be subject to "Jackie's Law" and all regulations therein.



Item 8 – Foreman Check List

- Before the Foreman and crew leave the job site at the end of their shift, they must have performed the following:
 - The work zone is swept and clean of debris.
 - All paved areas (cold patch or HMA) are to grade of the existing roadway.
 - No equipment or material is stockpiled without the express permission from the BTD.
 - The sidewalls of the excavation has been inspected for stability and shored where needed before plating.
 - All plates must have the ID name and emergency contact phone number clearly visible.
 - The crew has observed vehicular traffic traveling over the plates to verify that no banging, bouncing, shifting, warping, vibration, etc is taking place.

Item 9 – Edges Straight and Vertical

- All openings must be precut in a neat line using motorized wheel cutting, saw cutting, cold planing, or pneumatic chiseling
- Pavement edges shall be trimmed to a neat vertical face, free of loose materials and neatly aligned with the centerline of the trench.
- The shape of the pavement cut-outs shall be rectangular.
- All irregular shaped cuts or damaged pavement shall be repaired at the expense of the Permittee.

	r of Boston - Public Works Dept Highway Division TILITY STREET OPENING REPAIR INSPECTORS REPORT									
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Street:	For	rema	n:		Phone:					
Neighborhood:	Tin	ne Fr	om:	To:	Total Hou	ravel Time Include: irs:				
Date:	We	athe	r/Ten	np:						
Day of the week, Month, #, Year				Notes	v	iolation				
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s permit current? Call in logged? Proper Signage? 2. Abiding to Permit Restrictions?	n/o	YES	NO			_				
Two way traffic? Police Detail? Work Hours? Stockpling?						··· =				
3. Safe Work Zone? Shoring? Guardedwork zone? Ex. Cones? Barsels? Tape? Etc	n/a	YES	NO			🖳				
4. Suitable Reused Gravel Material?	n/a	YES	NO			🗆				
5. Suitable New Gravel Material?	n/a	YES	NO							
8. Compacted in 8" Maximum Lifts?	n/a	YES	NO							
of If the, lift thickness; type of equipment used; # of passes? 7. Controlled Density Fill (CDF)?	n/a	YES	NO							
Proper use of CDF? B. Opening Secured?	n/a	YES	NO							
9. Edges Straight and Vertical?		YES				=				
Cut Squared? Use Tao-Coat? ONLY AT END OF JOB.						' ⊟				
10. Two 1-1/2" Lifts of Hot Mix Asphalt? Total thickness, parallel to road surface, MUSTWITNESS	n/a	YES	NO			Ш				
11. Roadway Satisfactorily Complete? Orgoing, Acceptable, Hot Acceptable, is it smooth and level?	n/a	YES	NO			90 DAY INSPECTION				
12. Temp Sidewalk Complete?	n/a	YES	NO			🗆				
ongoing, Acceptable, Not Acceptable, Two 1 12" litts of HMA? 13. Permanent Sidewalk Complete?	n/a	YES	NO							
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Item 10 – (2) 1.5" Lifts of Hot Mix Asphalt

- A tack coat shall be painted to the pavement sidewalls of the entire excavation to prevent water infiltration.
- Asphalt cross section to be applied in two even lifts.
- First lift must consist of 1.5" binder.
- Last lift must consist of 1.5" top.
- Proper compaction equipment must be used.

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O'MORE AIR.			•		ze of Cut on Permit	
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Neighborhood:	Tin	ne Fr	om:	To:	Trave Total Hours:	el Time Included
Date:	We	ather	/Ten	np:		
Day of the week, Month, #, Year				Notes	Viola	tion
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is permit current? Call in logged? Proper Signage?						=
2. Abiding to Permit Restrictions? Two way traffic? Police Detail? Work Hours? Stockpling?	n/a	YES	NO			ш
3. Safe Work Zone? Shoring? Guarded work zone? Ex. Cones? Barse is? Tape? Elc	n/a	YES	NO			
4. Suitable Reused Gravel Material?	n/a	YES	NO			
5. Suitable New Gravel Material?	n/a	YES	NO			
6. Compacted in 8" Maximum Lifts? • of life; lift thickness; type of equipment used; # of passes?	n/a	YES	NO			
7. Controlled Density Fill (CDF)?	n/a	YES	NO			
Proper use of CDF? 8. Opening Secured?	n/a	YES	NO			
Shel Plates Recessed or Bermed; Cold patch (49hm); NO gravel 9. Edges Straight and Vertical?	n/a	YES	NO			☴
10. Two 1-1/2" Lifts of Hot Mix Asphalt?	n/a	YES	NO			三
3" total thickness, parallel to road surface, MUSTWITNESS	ン					
11. Readway Satisfactorily Complete? Orgoing, Acceptable, Hot Acceptable, Is it smooth and level?	n/a	YES	NO			INSPECTION
12. Temp Sidewalk Complete? Ongoing, Acceptable, Hot Acceptable, Two 11/2" litts of HMA?	n/a	YES	NO			
13. Permanent Sidewalk Complete?	n/a	YES	NO			
Ongoing, Acceptable, Hot Acceptable, Brushed, Tooled, and Level? 14. Loop Detectors / Crosswalks?	n/a	YES	NO			
What is the condition? Damaged? Intersection? 15. Public Safe ty Issue?		YES	NO			〒 一
Definitive hazard? Describe. Violation Delivered? YES	NO			Photo? YES	NO	SHUTDOWN
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Comments: Size of actual out?				rans:		
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Item 11 – Street Surface Restoration

- No. 11 Final Product smooth & level
- 2009 Construction Season indicated there to be a step backward in compliance regarding final product.
 - -2008 2.20% (96/4,358)
 - -2009 3.11% (113/3,639)
- Unacceptable! Needs drastic improvement. CIU will take extra care in 2010 to ensure compliance for this Construction Season.

	1	HIGH	(WA	PUBLIC WORKS DI Y DIVISION		
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ls permit current? Call in logged? Proper Signage?						
2. Abiding to Permit Restrictions? Two way traffic? Police Detail? Work Hours? Stockpling?	n/a	YES	NO			
3. Safe Work Zone?	n/a	YES	NO			
Shoring? Guardedwork zone? Ex. Cones? Barse is? Tape? Etc 4. Suitable Reused Gravel Material?	n/a	YES	NO			⊟
Was the material tested prior to use? 5. Suitable New Gravel Material?	n/a	YES	NO			⊟
Tested material? Gradation test on file? 6. Compacted in 8" Maximum Lifts?	n/a	YES	NO			☴
# of Ifth, Iff thickness; type of equipment used; # of passes? 7. Controlled Density Fill (CDF)?		YES				Ħ
Proper use of CDF? 8. Opening Secured?	n/a	YES	NO			三
Steel Plates Recessed or Bermed; Cold patch (45hrs); NO gravel 9. Edges Straight and Vertical?	n/o	YES	NO			=
Cut Squared? Use Tao-Coat? ONLY AT END OF JOB.						=
10. Two 1-1/2" Lifts of Hot Mix Asphalt?	n/a	YES	NO			Ш
11. Roadway Satisfactorily Complete?	n/a	YES	NO			90 DAY INSPECTION
12. Temp Sidewalk Complete?	n/a	YES	NO			
Orgoing, Acceptable, Not Acceptable, Two 1 1/2" lifts of HMA? 13. Permanent Sidewalk Complete?	n/a	YES	NO			Ħ ー
Ongoing, Acceptable, Not Acceptable, Brushed, Tooled, and Level?						=
14. Loop Detectors / Crosswalks? What is the condition? Damaged? Intersection?	n/a	YES	NO			\Box
15. Public Safety Issue?		YES	NO			
Violation Delivered? YES	NO			Photo? YES	NO	SHUTDOWN
Utility Rep. Contacted? YES	NO			Manna		
Comments: Size of actual out?				rame		
Inspected by :		gnatur		port are inve to statements noted	Date:/	/

See the Difference?





Item 11 – Foreman Check List

- Before the final paving has taken place, the Foreman must have performed the following:
 - The pavement cut has been squared off with vertical sidewalls in neat, straight lines.
 - The pavement sidewalls are clear of debris and have had a tack coat applied.
 - The crew has a supply of both HMA Binder and Top.
 - Proper compaction equipment is available, and used (roller, plate compactor, etc).
- The end product must be smooth and level to the grade of the pre-existing roadway.

Items 12 – Temporary Sidewalk

- Temporary Sidewalk repair to be made immediately
 - MA AAB/ADA compliant
 - Sidewalk cross slope must not exceed 2% (Strive for 1.5%)
 - Ramp cross slope must not exceed 8.3% (Strive for 7.5%)
 - Maintain a compliant temporary passageway of a minimum of 4' around construction area (See BTD Traffic Management Plan)
 - If unable to maintain minimum 4' passageway, the Permittee must provide (2) two MUTCD R9-10 "Sidewalk Closed Use Other Side" signs on either side of the site at the nearest intersecting pedestrian ramps.
 - 3" HMA installed w/ 2 Lifts

				Y DIVISION OPENING REPAIL		
BOSTONIA.				r opening repail Ors report	•	
OMBITA AR STATE		-		Siz	e of Cut on Permit	
				Roadwa	y or Sidewalk?	
PERMIT #:	Per	rmitte	ю:		nch or Patch / Trench	Depth?
Address:	Co	ntrac	tor:			
Street:	For	remai	n:		Phone:	
Neighborhood:	Tin	ne Fr	om:	To:	Trave	Time Included
Date:		ather			100011100001	
Day of the week, Month, s, Year	***	aurei	7101	•		
1. Current Permit Present?	n/a	YES	NO	Notes	Violat	
ts permit current? Call in logged? ProperSignage? 2. Abiding to Permit Restrictions?	-1-	YES	ыс			
2. Abiding to Permit Hestrictions? Two way traffic? Police Datall? Work Hours? Stockpling?	n/a	YES	NO			╚
3. Safe Work Zone? Shoring? Guarded work zone? Ex. Cones? Barie is? Tape? Elc	n/a	YES	NO			
4. Suitable Reused Gravel Material? Was the material tested prior to use?	n/a	YES	NO			
5. Suitable New Gravel Material? Tested material? Gradation test on file?	n/a	YES	NO			
6. Compacted in 8" Maximum Lifts? • of lifts; lift thickness; type of equipment used; • of passes?	n/a	YES	NO			
7. Controlled Density Fill (CDF)?	n/a	YES	NO			
Proper use of CDF? 8. Opening Secured?	n/a	YES	NO			$\overline{}$
Steel Plates Recessed or Bermed; Cold patch (48hm); NO gravel 9. Edges Straight and Vertical?	n/e	YES	NO			=
Cut Squared? Use Too Coat? ONLY AT END OF JOB. 10. Two 1-1/2" Lifts of Hot Mix Asphalt?		YES				=
3" total thickness, parallel to road surface, MUSTWITNESS						느 _
11. Roadway Satisfactorily Complete?	n/a	YES	NO			90 DAY INSPECTION
12. Temp Sidewalk Complete? Orgolog, Acceptable, Not Acceptable, Two 1 1/2" Hits of HMA?	n/a	YES	NO			
13. Permanent Sidewalk Complete?	n/a	YES	NO			
Ongoing, Acceptable, Hot Acceptable, Brushed, Tooled, and Level? 14. Loop Detectors / Crosswalks?	n/a	YES	NO			
What is the condition? Damaged? Intersection? 15. Public Safety Issue?		YES	NO			∺
Violation Delivered? YES	NO			Photo? YES		SHUTDOWN F
Utility Rep. Contacted? YES	NO					
Comments: Size of actual out?				rens:		
		•••••	•••••			
			•••••			
Inspected by:		gnature		port are true to statements noted	Date:/_	

Not Acceptable!



Acceptable.



Items 13 – Permanent Sidewalk

- Permanent repair to be made within 60 days of temporary repair
 - MA AAB/ADA compliant (see Item 12)
 - If any portion of an existing pedestrian ramp is disturbed by construction, Permittee shall be required to reconstruct the ramp to current ADA/AAB regulations.
 - Permittee not responsible for AAB reciprocal provision.
 - Must notify City before PCC work takes place
 - Abide by City material/installation specs.
- Utilities must maintain database of sidewalk restoration locations.

A TOTAL OF THE STATE OF THE STA	1	HIGH	IWA	PUBLIC WORKS DI Y DIVISION		
UTI				' OPENING REPAII ORS REPORT	R	
O'ADMITA ADM					e of Cut on Permit	
				D	 ov or Sidewalk?	
PERMIT #:	Por	rmitte	٠.		nch or Patch / Trench	Depth?
Address:		ntrac		Pagetti He	nerror Pagenty Herica	Берин
Street:	For	remai	n:		Phone: Trave	Time Included
Neighborhood:	Tin	ne Fr	om:	To:	Total Hours:	
Date:	We	ather	r/Ten	np:		
,,,				Notes	Violat	ion
1. Current Permit Present? b permit current? Call in loaged? Proce (Stangar)?	n/a	YES	NO			
2. Abiding to Permit Restrictions?	n/a	YES	NO			
Two way traffic? Police Detail? Work Hours? Stockpling? 3. Safe Work Zone?	n/a	YES	NO			
Shoring? Guarded work zone? Ex. Cones? Bars is? Tape? Etc 4. Suitable Reused Gravel Material?	-d-		NO			=
Was the material tested prior to use?	nva					범
5. Suitable New Gravel Material? Tested material? Gradation test on file?	n/a	YES	NO			
6. Compacted in 8" Maximum Lifts? # of lifts; lift thickness; type of equipment used; # of passes?	n/a	YES	NO			
7. Controlled Density Fill (CDF)?	n/a	YES	NO			
8. Opening Secured?	n/a	YES	NO			
Shel Plates Recessed or Bermed; Cold patch (48hm); NO gravel 9. Edges Straight and Vertical?	n/a	YES	NO			=
Cut Squared? Use Tao-Coat? ONLY AT END OF JOB. 10. Two 1-1/2" Lifts of Hot Mix Asphalt?		YES				=
3" total thickness, parallel to road surface, MUSTWITNESS						<u> </u>
11. Roadway Satisfactorily Complete? Ongoing Acceptable, Not Acceptable, is it smooth and level?	n/a	YES	NO			90 DAY INSPECTION
12. Temp Sidewalk Complete?	n/a	YES	NO			
13. Permanent Sidewalk Complete?	n/a	YES	NO			
Ongoing, Acceptable, Hot Acceptable, Brushed, Tooled, and Level?	n/a	YES	NO			\equiv
What is the condition? Damaged? Intersection? 15. Public Safety Issue?		YES				
Definitive hezard? Describe.			110	Dt VEO		
Violation Delivered? YES Utility Rep. Contacted? YES	NO NO			Photo? YES		SHUTDOWN
•				rems		
Comments and of Educate						
Inspected by:		anatur			Date: /	,

Item 14 – Loop Detectors / Crosswalks

- Loop detectors, pavement markings, signage etc.
- Partial damage to crosswalks results in complete restoration.
- Public's Safety possibly compromised
- Must be replaced no later than <u>72 hours</u> after completion of work.
- Permittees must internally track locations needing lane markings and loop detector replacing

	1	HIGH	IWA	PUBLIC WORKS D Y DIVISION I OPENING REPAI		
60STONIA.				ORS REPORT		
					ze of Cut on Permit	
PEDIST #	Permittee:				ay or Sidewalk?	D#-0
PERMIT #: Address:				Patch / Tre	nch or Patch / Trench	Depth?
Street:		remai			Phone:	
Neighborhood:		ne Fr		To:		el Time Included
Date:		athe			rotal riota's.	
Day of the week, Month, s, Year	***	aure	/101			
1. Current Permit Present?	n/a	YES	NO	Notes	Viola	tion
is permit current? Call in logged? Proper Signage?	-1-	YES				=
2. Abiding to Permit Restrictions? Twoway traffic? Police Detail? Work Hours? Stockpling?	n/a			•••••		브
3. Safe Work Zone? Shoring? Guarded work zone? Ex. Cones? Barse is? Tape? Etc	n/a	YES	NO			
4. Suitable Reused Gravel Material?	n/a	YES	NO			
5. Suitable New Gravel Material? Tested material? Gradation test on file?	n/a	YES	NO			
6. Compacted in 8" Maximum Lifts?	n/a	YES	NO			
# of life; lift thickness; type of equipment used; # of passes? 7. Controlled Density Fill (CDF)?	n/a	YES	NO			\equiv
Proper use of CDF? 8. Opening Secured?	n/a	YES	NO			$\overline{}$
Steel Plates Recessed or Bermed; Cold patch (48hm); NO gravel 9. Edges Straight and Vertical?	n/e	YES	NO			=
Cut Squared? Use Tac-Coat? ONLY AT END OF JOB. 10. Two 1-1/2" Lifts of Hot Mix Asphalt?	-/-	YES				=
3" total thickness, parallel to road surface, MUSTWITNESS						닏
11. Roadway Satisfactorily Complete? Ongoing, Acceptable, Hot Acceptable, Is it smooth and level?	n/a	YES	NO			90 DAY INSPECTION
12. Temp Sidewalk Complete? Orgolog, Acceptable, Not Acceptable, Two 1 1/2" Hits of HMA?	n/a	YES	NO			
13. Pormanent Sidewalk Complete? Ongoing, Acceptable, Not Acceptable, Brushed, Tooled, and Level?	n/a	YES	NO			
14. Loop Detectors / Crosswalks?	n/a	YES	NO			
What is the condition? Damaged? Intersection? 15. Public Safety Issue?		YES	NO			一
Delinitive hazard? Describe. Violation Delivered? YES	NO			Photo? YES	NO	SHUTDOWN
Utility Rep. Contacted? YES	NO			Name:		
Comments: Size of actual out?				rame -		
Inspected by :		gnature		port are true to statements noted	Date:/_	/

Pavement Markings

- Lane Markings on Arterials must have temporary tape applied before the required 72 hour permanent replacement application.
- The BTD and the CIU have increased its vigilance regarding Disrupted Lane Markings.
- Lane Markings that have been impacted by a Permittee and not repaired within the required period of time may compromise the public's safety.
- Patches or trenches without the required pavement markings is an incomplete product. This conveys to the public that City and the Permittees are not doing the job "right".
- Disrupted Lane Markings are now added to the "Bad Patch" listing.

Item 15 – Public Safety

- Signals an egregious disregard for City Rules and Specifications
- Will result in meeting/shutdown
- Possibility of all active work zones being shut down (Excluding Emergency work)
- Public Safety violations will be taken into account during Winter Moratorium requests.
- The City of Boston keeps record of ALL violations against the Rules and Specifications.
- Such violations are taken into consideration, especially in regard to public safety, in the Permit Application Process.

a water was	/ of BOSTON - PUBLIC WORKS DEPT HIGHWAY DIVISION TILITY STREET OPENING REPAIR INSPECTORS REPORT										
					Size of Cut on Perr	nit					
The state of the s					way or Sidewalk						
PERMIT #:		rmitte		Patch/	Trench or Patch / Tren	nch Depth?					
Address:	Co	ntrac	tor:								
Street:	For	rema	n:		Phone:	ravel Time Included					
Neighborhood:	Tin	ne Fr	om:	To:	Total Hou						
Date:	We	ather	/Ten	np:							
Day of the week, Month, #, Year				Notes	v	iolation					
1. Current Permit Present? is parmit current? Call in logged? Proper Signage?	n/a	YES	NO								
2. Abiding to Permit Restrictions?	n/a	YES	NO								
Now ay traffic? Police Detail? Work Hours? Stockpling? 3. Safe Work Zone?	n/a	YES	NO			··· =					
Shoring? Guarded work zone? Ex. Cones? Bara is? Tape? Etc 4. Suitable Reused Gravel Material?	-/-					=					
Was the material tested prior to use?	n/a	YES				··· 남					
5. Suitable New Gravel Material? Tested material? Gradation test on file?	n/a	YES	NO			ᆜ					
6. Compacted in 8" Maximum Lifts?	n/a	YES	NO			🗖					
7. Controlled Density Fill (CDF)?	n/a	YES	NO			🗖					
8. Opening Secured?	n/a	YES	NO			🗆					
Steal Plates Recessed or Bermed; Cold patch (48hm); NO gravel 9. Edges Straight and Vertical?	n/a	YES	NO			=					
Cut Squared? Use Tac-Coat? ONLY AT END OF JOB. 10. Two 1-1/2" Lifts of Hot Mix Asphalt?		YES				···					
3" total thickness, parallel to road surface, MUSTWITNESS						Ц					
11. Roadway Satisfactorily Complete? Orgoing, Acceptable, Hot Acceptable, Is it smooth and level?	n/a	YES	NO			90 DAY INSPECTION					
12. Temp Sidewalk Complete? Orgoing, Acceptable, Not Acceptable, Two 1 1/2" Hits of HMA?	n/a	YES	NO			🗆					
13. Permanent Sidewalk Complete?	n/a	YES	NO			🗆					
Orgoing, Acceptable, Hot Acceptable, Brushed, Tooled, and Level? 14. Loop Detectors / Crosswalks?	n/a	YES	NO								
What is the condition? Damaged? Intersection? 15. Public Safety Issue?		YES	NO								
Duffinitive hazard? Describe. Violation Delivered? YES	NO			Photo? YES	NO.	LJ SHUTDOWN F					
Utility Rep. Contacted? YES	NO					SHOTDOWN _					
Comments: Stop of actual out?						'ima					
Inspected by:	SI	gnature	e:		Date:						



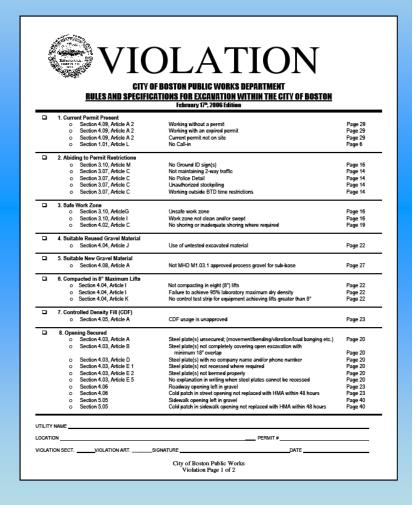
Winter Moratorium

- November 15 April 15 (approx)
- Materials & workmanship negatively effected by cold weather.
- No permits issued without city approval.
- Plated locations hazard to City plowing efforts.



Violation Sheet

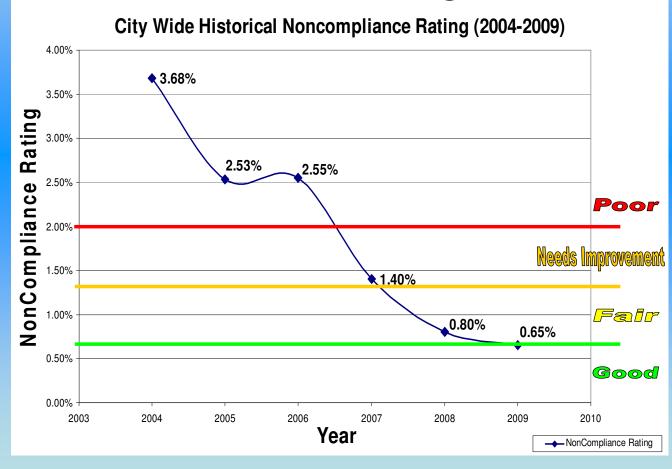
- Issued to crew on active work sites. For inactive sites, the CIU maintains a copy of the Violation and a notice is sent.
- Sites section/article from City Rules & Specifications



Historical Data

- You have shown a steady improvement over the past few years.
- Education is Key

2004-2009 Rating Scale



New Standard

- Through hard work and the effort you have shown the City, you have raised the standards to a new level.
- A new NonCompliance scale will be in affect this Construction Season.
- The Public Works Department greatly appreciates how diligently you have all worked, and is confident that you will continue on this trend of excellence in the coming season.

Noncompliance Rating



(SUM OF VIOLATIONS SUM OF INSPECTION ITEMS)

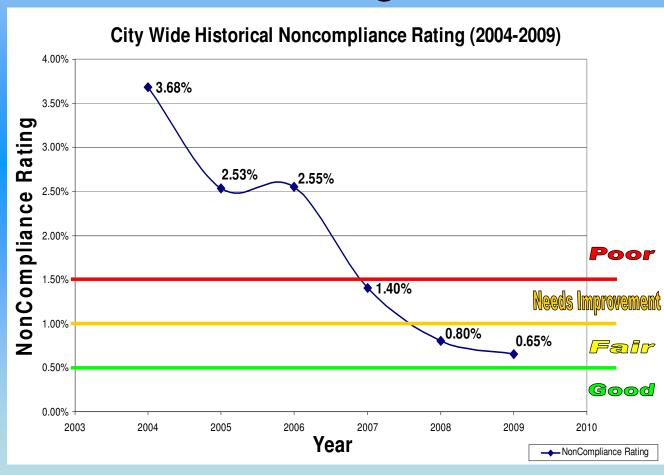
 $0.00\% \le \text{Good} < 0.50\%$ $0.50\% \le \text{Fair} < 1.00\%$ $1.00\% \le \text{Needs Improvement} < 1.50\%$ $\ge 1.50\% \text{ Poor}$

Scale developed from historical data as collected by CIU inspections

NonCompliance Adjustment

2010 Rating Scale

Estimated 0.47% overall Non-Compliance if "Roadway Satisfactorily Complete" was in "Good" rating, 2009.



Cooperative Effort

In 2007 the BPWD began weekly transmissions of rating summaries (Report Cards) to major utilities

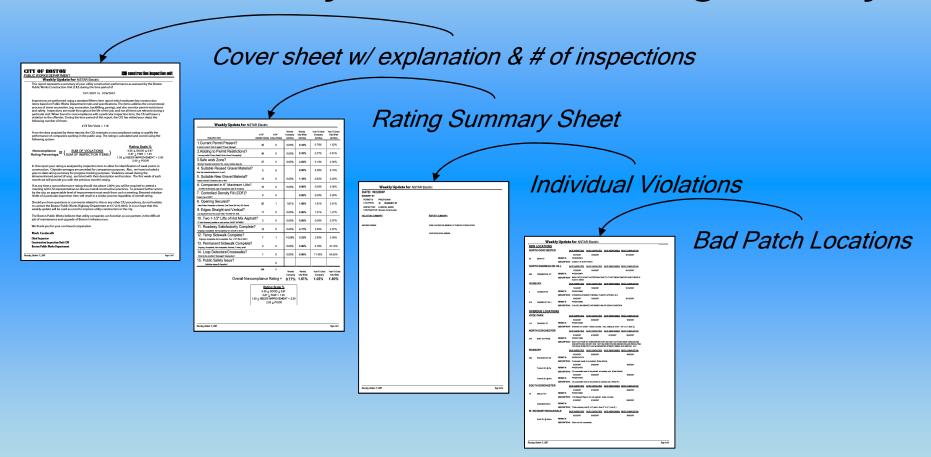
Valuable tool for City & utilities.

 Provides comparison to citywide average.

We welcome feedback.

CIU Weekly Report Card Update

City of Boston leading the way...



Enforcement

- Zero Tolerance on individual work zones established in 2006 by Mayor Menino on Critical violation(s)
 - Immediate jobsite shutdown/meeting at city hall
- The City has instituted a "three strike" policy regarding overall construction practices within a calendar year.
 - Overall non-compliance rating > 1.50% managers called for meeting (First Strike)
 - No improvement will result in a citywide non-emergency shutdown of permits (Second Strike) Meeting scheduled.
 - Continued lack of improvement shall result in another shutdown (Third Strike)
 - After third strike, highest representatives of company shall meet with Commissioner Massaro and Mayor's office to discuss overall construction practices.
 - Elevated individual items (e.g. Plates) will fall under the "Three Strike" policy.
 - The Permittee shall be held accountable for any actions performed by its Personnel. If the personnel of a Permittee is cited for three shutdown meetings for the same inspection Item (e.g. unsafe work zone), the Permittee shall fall under the "Second Strike" policy.

Mayor Thomas Menino takes Public Safety Seriously!!

Enforcement Cont...

"Badpatch" - procedure must be followed

- Identified by CIU as "unacceptable" under Items 11, 12, & 13
- Utility Contractor Notified by EMAIL or PHONE
- Utility has 48 hrs to confirm or contest
 - Contested patches on hold until field meeting
 - Confirmed have until end of following week to repair
 - No communication results as confirmed
- Failure to address bad patches result in suspension of permits
- Public Safety locations require immediate response
- Report Card Tool used for self evaluation

Contractor/Utility Noncompliance Rating 1/1/2006 to 12/31/2006										
Inspection tem	City Wide	State/Muni.	Private Contractors	Udilities	Keyspan	NSTAR E	NSTAR G	Comcast	Trigen	Vertzon
1. Current Permit Present? Is permit current? Callin logged? Proper Signage?	4.07%	361%	4.33%	4.00%	5.64%	2.33%	1.10%	0.38%	3.42%	1.38%
2.Abiding to Permit Restrictions? Two-way halio? Police Datal? Work Hours? Stockpling?	0.85%	2.77%	1.10%	0.58%	0.81%	0.30%	0.00%	0.75%	0.00%	0.00%
3. Safe work Zone? Shoring? Guarded workzone? Ex. cones, banels, tape etc.	0.18%	0.43%	0.25%	0.14%	0.14%	0.15%	0.00%	0.00%	0.68%	0.00%
4. Suitable Reused Gravel Material?	0.16%	1.18%	0.20%	0.07%	0.13%	0.00%	0.00%	0.00%	0.00%	0.00%
5. Suitable New Gravel Material? Tested material? Gradation test on tile?	0.12%	1.35%	0.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
6. Compacted in 8" Maximum Lifts? # of this; thithickness; type of equipment used; # of passes	4.44%	25,68%	4.25%	3.06%	2.96%	1.97%	11.90%	2.50%	11.11%	1.49%
7. Controlled Density Fill (CDF)?	1.36%	20.00%	0.00%	1.08%	5.26%	0.00%		0.00%	0.00%	0.00%
8. Opening Secured? Sted Plates Recessed or Bermed; Cold Patch (48 hrs); NO Gravel	5.58%	15.21%	5.11%	4.54%	5.56%	2.85%	2.27%	0.74%	2.48%	1.14%
9. Edges Straight and Vertical? cursquared? Use Tac Coat? ONLYAT END OF JOB.	2.00%	3.45%	1.93%	1.89%	1.57%	3.85%	0.00%	0.66%	0.00%	0.44%
10. Two 1-1/2" Lifts of Hot Mix Asphalt?	1.44%	6.25%	0.99%	1.28%	1.81%	0.00%	0.00%	3.33%	0.00%	3.85%
11. Roadway Satisfactorily Complete? Ongoing, Acceptable, Not Acceptable, Is it smooth or level?	4.76%	16.31%	4.75%	3.65%	4.10%	4.04%	2.30%	0.65%	5.56%	1.70%
12. Temp Sidewalk Complete? Orgoring Acceptable, Not Acceptable, Two 1-1/2" files of HMA?	4.18%	25.49%	1.60%	3.28%	3.86%	4.42%	0.00%	0.00%	0.00%	0.00%
13. Permanent Sidewalk Complete? Ongoing Acceptable, Not Acceptable, Brushed, Tooled Jevel?	6.64%	16.42%	6.91%	4.01%	4.85%	3.37%	16.67%	0.00%	0.00%	2.38%
14. Loop Detectors/Crosswalks? What is the condition? Damaged? Intersection?	0.66%	3.33%	1.41%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
15. Public Safety Issue? Definitive hazard? Describe?										
Boston Public Works	City Wide	State/Munt. RATING	Contractor:	Utilities RATING	Keyspan RATING	NSTAR E RATING	NSTAR G RATING	Comeast RATING	Trigen RATING	Vertzen RATING
CVerall construction inspection unit Rating =	2.56%	7.39%	2.50%	2.13%	2.66%	1.68%	1.58%	0.53%	1.65%	0.71%

Contractor/Utility Noncompliance Rating	Incompliance Rating									
Inspection item	City Wide	State/Muni.	Contractors	Utilities	Keyspan	NSTAR E	NSTAR G	Corncast	Trigen	Vertzon
.Current Permit Present?		4.550	4.550	4 44 90	4.050		4.070		0.044	
permit current? Call-in logged? Proper Signage?	1.44%	1.55%	1.52%	1.41%	1.87%	0.75%	1.07%	0.39%	3.91%	0.32%
2.Abiding to Permit Restrictions? www.ynafic? Police Detal? Work Hours? Stockpiling?	0.50%	2.27%	0.67%	0.35%	0.41%	0.23%	1.03%	0.00%	0.00%	0.32%
B.Safe work Zone? Shoring? Guarded workzone? Ex. cones, barnels, tape etc.	0.18%	1.14%	0.14%	0.14%	0.15%	0.10%	0.00%	0.00%	0.75%	0.16%
L Suitable Reused Gravel Material?	6.06%	30.00%	0.00%	2.22%	0.00%	5.00%	0.00%			0.00%
5. Suitable New Gravel Material?	0.19%	0.00%	0.00%	0.26%	0.07%	0.67%	0.00%	0.00%	0.00%	0.57%
6. Compacted in 8" Maximum Lifts? # of lifts; lift thickness; type of equipment used # of passes	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
7. Controlled Density Fill (CDF)?	0.000/	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
B. Opening Secured? Steel Plates Recessed or Bermed; Cold Parich (48 hrs); NO Gravel	3.26%	11.34%	2.17%	3.04%	3.74%	1.96%	5.26%	0.00%	4.78%	0.30%
Edges Straight and Vertical? Arsquared? Use Taccom? ONLY AT END OF JOB.	0.68%	1.19%	0.30%	0.72%	0.75%	0.73%	0.00%	0.00%	4.76%	0.00%
0. Two 1-1/2" Lifts of Hot Mix Asphalt? rictal thickness, parallel to road auriaco, MUST WITNESS	0.06%	0.00%	0.00%	0.08%	0.15%	0.00%	0.00%	0.00%	0.00%	0.00%
1. Roadway Satisfactorily Complete? Ongoing, Acceptable, Not Acceptable, le it smooth or level?	3.'34%	7.96%	1.83%	3.24%	3.64%	2.66%	4.39%	125%	4.69%	0.75%
2. Temp Sidewalk Complete? Ongoing Acceptable, Not Acceptable, Two 1-1/2" lifts of HMA?	2.42%	6.33%	3.02%	1.81%	1.81%	2.15%	2.78%	0.00%	0.00%	0.00%
Permanent Sidewalk Complete? Ongoing Acceptable, Not Acceptable, Brushed, Tooled Jevel?	8.23%	15.53%	4.14%	9.21%	13.04%	3.88%	16.13%	0.00%	0.00%	7.84%
4. Loop Detectors/Crosswalks? What is the condition? Diamaged? Intersection?	35.29%	0.00%	0.00%	40.00%	46.15%	38.46%		0.00%	33.33%	0.00%
5. Public Safety Issue? Definitive hazard? Describe?										
Boston Public Works	City Wide	State/Munt RATING	Contractor:	Utilities BATING	Keyspan RATING	NISTAR E RATING	NSTAR G	Comcast RATING	Trigen RATING	Vertzon RATING

Contractor/Utility Noncompliance Rating 1/1/2008 to 12/31/2008										
Inspecțion Ițem	City Wide	State/Muni.	Private Contractors	Utilities	National Grid	I NSTAR E	NSTAR G	Comcast	Trigen	Verizon
1. Current Permit Present? Is permit aurent? Callin logged? Proper Signage?	0.84%	0.64%	1.12%	0.77%	0.88%	0.58%	0.91%	0.00%	0.00%	0.83%
2.Abiding to Permit Restrictions? Two-way traffe? Police Detail? Work Hours? Stodgaling?	0.36%	1.16%	0.56%	0.14%	0.14%	0.19%	0.00%	0.00%	0.00%	0.00%
3. Safe Work Zone? Shoring? Guarded workzone? Ex. cones, banels, tape etc.	0.26%	0.89%	0.40%	0.09%	0.07%	0.19%	0.00%	0.00%	0.00%	0.00%
4. Suitable Reused Gravel Material? Was the material feded prior to use?	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		0.00%		0.00%
5. Suitable New Gravel Material?	0.04%	0.00%	0.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
6. Compacted in 8" Maximum Lifts? # of lifts; lift trickness; type of equipment used; # of passes	0.08%	1.79%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
7. Controlled Density Fill (CDF)?	0.00%		0.00%	0.00%	0.00%	0.00%			0.00%	0.00%
8. Opening Secured? Steel Plates Recessed or Bermed; Cold Patch (48 hrs); NO Gravel	1.81%	3.89%	1.63%	1.48%	1.82%	0.82%	3.28%	0.00%	0.37%	0.78%
9. Edges Straight and Vertical? out Squared? Use Tac-Coat? ONLY AT END OF JOB.	0.43%	2.43%	0.00%	0.38%	0.37%	0.69%	0.00%	0.00%	0.00%	0.00%
10. Two 1-1/2" Lifts of Hot Mix Asphalt? 3" total thickness, parallel to road surface, MUST WITNESS	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
11. Roadway Satisfactorily Complete? Ongoing, Acceptable, Not Acceptable, is it smooth or level?	2.20%	9.60%	1.68%	1.65%	1.93%	0.86%	0.00%	0.00%	2.17%	0.00%
12. Temp Sidewalk Complete? Crigolog Acceptable, Not Acceptable, Two 1-1/2" lifts of HMA?	1.12%	5.08%	1.46%	0.29%	0.44%	0.00%	0.00%	0.00%	0.00%	0.00%
13. Permanent Sidewalk Complete? Ongoing, Acceptable, Not Acceptable, Brushed, Tooled Jevel?	0.93%	1.46%	0.65%	0.73%	1.23%	0.00%	0.00%	0.00%	0.00%	0.00%
14. Loop Detectors/Crosswalks? What is the condition? Damaged? Intersection?	0.00%		0.00%	0.00%	0.00%	0.00%				
15. Public Safety Issue? Definitive hazard? Describe?										
Boston Public Works	City Wide	State/Muni. RATING	Contractors	Utilities RATING	Keyspan RATING	NSTAR E RATING	NSTAR G RATING	Comcast RATING	Trigen RATING	Verizon RATING
Call construction inspection unit Rating	0.80%	2.12%	0.77%	0.61%	0.73%	0.43%	0.47%	0.00%	0.21%	0.24%

Contractor/Utility Noncompliance Rating 1/1/2009 to 12/31/2009										
Inspection Item	City Wide	State/Muni.	Contractors	Utilities	National Grid	NSTAR E	NSTAR G	Comcast	Trigen	Verizon
1.Current Permit Present? Is permit current? Call-in logged? Proper Signage?	0.49%	0.22%	0.42%	0.57%	0.77%	0.22%	0.00%	0.00%	0.00%	0.40%
2.Abiding to Permit Restrictions? Two-way traffic? Police Detail? Work Hours? Stockpiling?	0.22%	0.45%	0.15%	0.17%	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%
3. Safe work Zone? Shoring? Guarded workzone? Ex. cones, barrels, tape etc.	0.08%	0.28%	0.15%	0.02%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%
4. Suitable Reused Gravel Material? Was the material tested prior to use?	0.00%	0.00%	0.00%	0.00%	0.00%			0.00%		
5. Suitable New Gravel Material? Tested material? Gradation test on file?	0.05%	0.00%	0.31%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
6. Compacted in 8" Maximum Lifts? # of lifts; lift thickness; type of equipment used; # of passes	0.49%	4.58%	0.30%	0.14%	0.24%	0.00%	0.00%	0.00%	0.00%	0.00%
7. Controlled Density Fill (CDF)? Proper Use of CDF?	0.00%		0.00%	0.00%	0.00%	0.00%			0.00%	
8. Opening Secured? Stool Platos Rocessed or Bermed; Cold Patch (48 hrs); NO Gravel	1.24%	1.08%	1.29%	1.28%	1.43%	1.58%	0.00%	0.00%	0.00%	1.06%
9. Edges Straight and Vertical? Cut Squared? Use Tac Coat? ONLYAT END OF JOB.	0.03%	0.00%	0.00%	0.04%	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%
10. Two 1-1/2" Lifts of Hot Mix Asphalt? 3" total thickness, parallel to road surface, MUST WITNESS	0.43%	2.82%	0.00%	0.20%	0.37%	0.00%	0.00%	0.00%	0.00%	0.00%
11. Roadway Satisfactorily Complete? Ongoing, Acceptable, Not Acceptable, Is it smooth or level?	3.10%	8.91%	1.60%	2.65%	2.66%	3.38%	3.23%	0.94%	3.03%	0.96%
12. Temp Sidewalk Complete? Ongoing, Acceptable, Not Acceptable, Two 1-1/2" lifts of HMA?	0.21%	0.00%	0.93%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
13. Permanent Sidewalk Complete? Ongoing, Acceptable, Not Acceptable, Brushed, Tooled Jevel?	3.86%	7.32%	0.88%	5.71%	9.30%	5.00%	0.00%	0.00%		0.00%
14. Loop Detectors/Crosswalks? What is the condition? Damaged? Intersection?	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%		0.00%		
15. Public Safety Issue? Definitive hazard? Describe?										
Boston Public Works	City Wide	State Muni.	Contractors	Utilities PATING	Keyspan RATING	NSTAR E RATING	NSTAR G	Comcast RATING	Trigen RATING	Verizon RATING
Overall Rating	0.65%				0.73%		0.28%			0.26%

Need for improvement of Roadway Satisfactorily Complete!

NonCompliance Fluctuation	2006	2007	2008	2009
Overall	2.56%	1.40%	0.80%	0.65%
Opening Secured	5.58%	3.26%	1.81%	1.24%
Roadway Satisfactorily Complete	4.76%	3.34%	2.20%	3.10%

Over 50% of all "Roadway Satisfactorily Complete" Violations were issued on locations where Emergency Work took place without the Supervision of the CIU.

90 Day Reinspections

 PWD considers the 90-Day Re-inspection <u>as the final</u> testament on how well the Permittee adhered to the Rules and Specifications regarding Construction Practices.

90-Day Reinspection - Acceptable Rate

90-Day Reinspections
Violations
Percentage of Acceptable Patches

2007	2008	2009	Total
1578	2974	1884	6436
32	44	56	132
97.97%	98.52%	97.03%	97.95%

 The City is assessing your product and how it affects the residents long after you have completed the work.

Conclusion

- Utility network key component in Boston's future
- Upgrade, repair, and maintenance must be performed in a professional manner
- Teamwork is critical in delivering shared goal of a superior infrastructure to Boston's Citizens

SEE YOU OUT IN THE STREETS